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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/036,877	01/04/2002	James Manio Silva	RD-29276	5166
6147	7590	03/12/2004	EXAMINER	
GENERAL ELECTRIC COMPANY GLOBAL RESEARCH PATENT DOCKET RM. BLDG. K1-4A59 SCHENECTADY, NY 12301-0008			CINTINS, IVARS C	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/036,877

Applicant(s)

SILVA ET AL.

Examiner

Ivars C. Cintins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 27-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-26, drawn to a method for removing impurities from a brine solution, classified in class 210, subclass 669.
- II. Claims 27-29, drawn to a method for regenerating a carbonaceous adsorbent, classified in class 502, subclass 22.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are independent and distinct from one another because the process of Group I does not require the regeneration treatment of Group II, and the process of Group II does not require the brine treatment of Group I.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Andrew Caruso on February 27, 2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-26. Affirmation of this election must be made by Applicant in replying to this Office action. Claims 27-29 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claims 6 and 19 are objected to because the term "with in" does not appear to be grammatically correct. Appropriate correction is required. Applicant is advised that an amendment deleting either "with" or "in" from the above noted expression would overcome this objection.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silva et al. (U.S. Patent No. 6,426,008) or WO 01/14252 in view of Silva (U.S. Patent No. 6,214,235). Each of the primary references discloses purifying brine for use in a membrane electrolyzer (see col. 1, line 10 of Silva et al.; and page 1, lines 5-6 of WO 01/14252) by subjecting this brine to the recited pH adjustments and functionalized resin treatments at the recited conditions (see col. 13, line 12 through col. 14, line 32 of Silva et al.; and page 23, line 3 through page 24, line 28 of WO 01/14252). Accordingly, each of these primary references discloses the claimed invention with the exception of the recited polishing treatment. The secondary reference discloses that brines of the type recited (see col. 3, lines 9-10) must be treated with adsorbents of the type recited (see col. 2, lines 19-20 and 23) if these brines are to be used in membrane electrolyzers (see col. 1, lines 18-26 and 31-24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the brine of the secondary reference for the brine of either primary reference, since this secondary reference brine is capable of functioning, after the appropriate adsorbent treatment, in a membrane electrolyzer in substantially the same manner as the brine of either primary reference, to produce substantially the same results. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to subject this brine to the purification treatment of either primary reference, and then to the additional adsorbent treatment of the secondary reference (i.e. polishing), in order to allow this

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brine to be used in the membrane electrolyzer of either primary reference (see col. 1, line 10 of Silva et al.; and page 1, lines 5-6 of WO 01/14252).

Claims 1-4 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silva et al. or WO 01/14252 in view of Vaughn et al. (U.S. Patent No. 4,747,957). Each of the primary references discloses the claimed invention with the exception of the recited polishing treatment. Vaughn et al. discloses a similar process for purifying brine to be used in a chlor-alkali cell (col. 6, line 34), and teaches subjecting this brine to a polishing treatment after a conventional ion exchange resin treatment, in order to catch any hardness values that escape through the ion exchanger (col. 6, lines 25-31). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to subject the treated brine of either primary reference to the polishing treatment of Vaughn et al., in order to obtain the advantages disclosed by this secondary reference for the process of either primary reference.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins whose telephone number is (571) 272-1155. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Blaine Copenheaver, can be reached at (571) 272-1156.

The centralized facsimile number for the USPTO is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ivars C. Cintins
Primary Examiner
Art Unit 1724

I. Cintins
March 4, 2004